

MOUNTAIN PINE BEETLE INFESTATION IN LODGEPOLE PINE
ASHLEY AND WASATCH NATIONAL FORESTS

June 1952

INTRODUCTION

Losses caused by the mountain pine beetle in lodgepole pine stands on the Ashley and Wasatch National Forests have been reported almost every year since before 1920. Their severity has fluctuated greatly, ranging from a few hundred trees up to over 100,000 in a single year. Artificial control work was begun in 1931 and continued through 1936, with a total of about 140,000 trees being treated. Very little infestation was reported on the Ashley from 1937 to 1940, inclusive, but in 1941 heavy infestations were found in the Smith's Fork, Sage Creek, and Henry's Fork areas. The beetles increased more rapidly on the Wasatch and a 4 to 1 build-up was reported on the Black's Fork area in 1938, with an even greater increase in 1939. Control work began again on the Wasatch in 1940 and on the Ashley in 1941 but had to be abandoned after 1941 because of a labor shortage caused by World War II. A total of about 62,500 trees were treated during the years 1940 to 1941, inclusive.

No control work has been done on either Forest since 1941. Losses increased rapidly to a peak of over 112,000 trees killed in 1948 and only slightly smaller numbers in 1949 and 1950. However, the peak on the Wasatch came in 1948 but then dropped off very rapidly. On the Ashley, the peak was reached in 1949 and continued at about the same level in 1950, with a sharp decrease in 1951.

No formal appraisal survey could be conducted on either forest in the fall of 1951. A reconnaissance survey in part of the infested areas indicated that there was a marked reduction in the number of new attacks. In the spring of 1952 an appraisal survey of all known infested areas on the two forests was conducted by a crew of temporary employees. The work was completed before the beetles that had developed in trees attacked in the fall of 1951 were ready to emerge. Data obtained from the survey therefore apply to the fall of 1951 infestation. An appraisal survey of the fall of 1952 infestation has not been made.

The following discussion applies to the spring survey of 1952:

SURVEY METHODS

A 1½ per cent line plot survey was designed to produce estimates within an allowable standard error of 25 per cent for areas of 50,000 acres. Parallel lines were run at right angles to the major contours and were spaced one half mile apart. A fifth acre circular plot was examined every four chains along the compass line. All infested trees were recorded by DEH.

One crew of from 3 to 6 men equipped with one, $\frac{1}{2}$ ton 4-wheel drive Jeep pickup and one universal 4-wheel drive Jeep and trailer surveyed both forests.

SURVEY RESULTS

Approximately 107,000 acres of lodgepole pine type were surveyed on the two forests. A total of slightly over 12,000 new attacks (8900 ± 2130 Ashley N. F. and 3200 ± 825 Wasatch N. F.) was estimated to be present in the surveyed areas. This represents a reduction of infested trees as compared with the 1950 fall survey estimates (80,000 infested trees) of 85 per cent.

The size of the newly attacked trees (10.8 inches average DBH) agrees with the size of the trees attacked in the last few years. There was no evidence that mass long distance flights had occurred and the areas adjoining the infested areas had not been invaded, therefore the reduction of infested trees means that a great reduction in the beetle population has taken place. The reason for this natural reduction is not known.

The 1952 and 1950 survey figures for the various units are presented in Table 1. Unit 9, Burnt Fork, and Unit 10, Thornburg, were examined by extensive scouting only. Very few infested trees were observed in these two units. Areas covered by the survey are shown on a map of the two forests.

ASHLEY - WASATCH
MOUNTAIN PINE BEETLE SURVEY
1952

1952 Survey Estimates*					1950 Survey Estimates		
Unit	Area in Acres	New Attacks/ Acre	New Attacks		Area in Acres	Attacks/ Acre	Total Attacks
			Average DBH (inches)	Total			
<u>ASHLEY N.F.</u>							
1 Hole in Rock	5,728	.35	11.2	2000±802	5,040	3.17	16,000
2 Smith's Fork	29,792	.17	10.9	5050±560	26,336	1.54	40,600
3 Henry's Fork	10,464	.11	10.3	1200±546	6,936	.77	5,320
4 Sheep Creek	11,456	.06	8.9	650±630	3,104	.57	1,760
FOREST TOTALS	57,440	.15	10.7	8900±2130	41,416	1.54	63,680
<u>WASATCH N.F.</u>							
5 Black's Fork	20,110	.06	12.0	1280±408	15,936	.34	5,400
6 Bear River	13,376	.06	10.2	800±324	9,744	.44	4,320
7 Smith's Fork	11,216	.09	10.4	1040±657	10,392	.59	6,160
8 Provo River	4,752	.02	14.0	80±80	-	-	-
FOREST TOTALS	49,456	.06	11.1	3200±825	36,072	.44	15,880
<u>ASHLEY-WASATCH</u>							
GRAND TOTALS	106,896	.11	10.8	12100	77,488	1.03	79,560

* Data apply to 1951 fall attacks.



THE HIGH UINTAS WASATCH & ASHLEY NATIONAL FOREST

1952

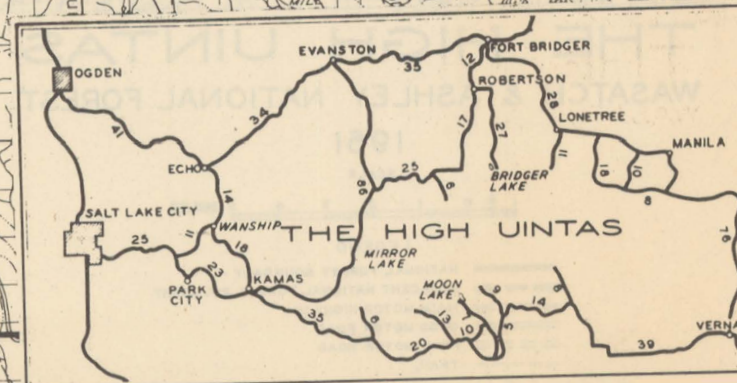
JUNE - JULY

MOUNTAIN PINE BEETLE

SURVEY

LODGEPOLE PINE

(AGRICULTURE - OGDEN)



KEY MAP